Port Network Authority of the
North Tyrrhenian Sea
Ports of Livorno – Piombino – Portoferraio – Rio Marina – Cavo - Capraia Island

DPSS

Strategic Network Planning Document

Smartbook

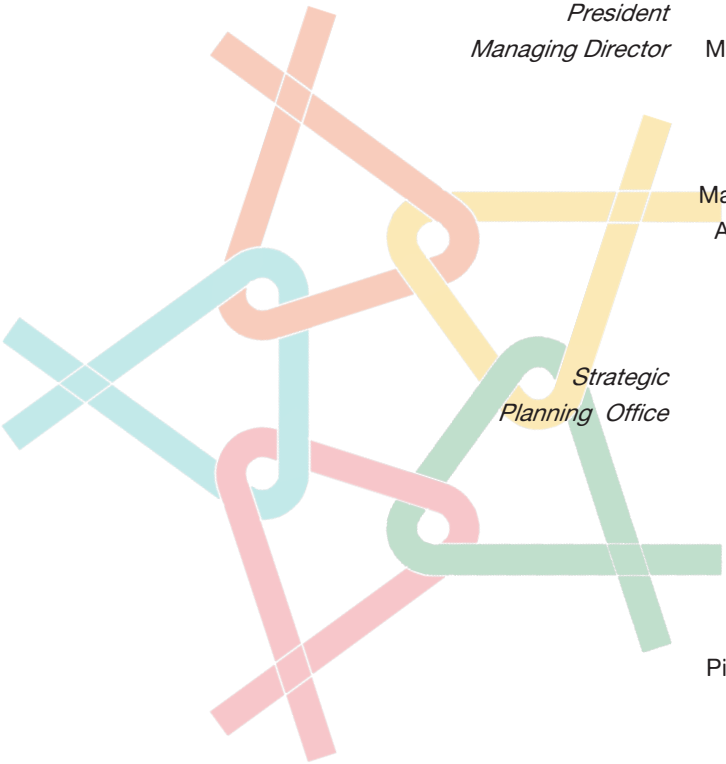


The North Tyrrhenian Port Network Authority

Port Network Masterplan

STRATEGIC NETWORK PLANNING DOCUMENT

Smartbook



President Stefano Corsini

Managing Director Massimo Provinciali

Strategic Planning Office

Claudio Vanni
Matteo Scamporrino
Andrea Del Corona
Paolo Scarpellini
Francesca Pichi
Giorgio Mainardi
Barbara Bottoni
David Zanobetti
Saverio Failli
Patrizia Innocenti
Claudia Casini
Maurizio Tonelli
Antonio Saviozzi
Claudia Bulleri
Pierangelo Simonini
Laura Montioni
Isabella Palano

INDEX







BRAVE NEW PORT .4

WORLDWIDE SUSTAINABLE PORTS .14
Economic,social,environmental and technological development framework

QUAY, PLUG & PLAY .18
Operating port

OVERCOMING NETWORK IMPEDANCE .20
Infrastructural and "Last mile" set up (service to end-user costumers)

CITY-PORT AGREEMENTS .22
Interaction between port and city

GLOCAL GOVERNANCE RE-FOCUSING .24
Port planning

DIALOGUE AND PARTECIPATION .26


Livorno
Capraia
Piombino
Cavo
Rio Marina
Portoferraio

A NEW LANGUAGE

Among the main innovations introduced by the reform in terms of port planning we find **new strategic language**, which can be summed up with the **objectives-strategies-actions** chain. This was previously mostly the prerogative at national level, but now it is increasingly used for regional planning (Urban Planning Schemes, Metropolitan Strategic Plans, Inter-municipal Plans, etc.) and sectoral planning (Sustainable Mobility Urban Planning, River Basin Management Plans, Tourism Development Plans, etc.).

THE 5 STRATEGIC MACRO-THEMES

The preparation of the strategic plan begins with the identification of **macro themes** to be addressed in the plan. This is done through comparing existing plans and planning tools with specific themes for developing the port network strategy .

The Planning Office has identified the following macro-themes:

- World Wide Sustaiable Ports - Economic, social, environmental and technological development framework;
- Quay, Plug & Play -operating port
- Overcoming Network Impedance - Infrastructural and "Last mile" set up (service to end-user costumers).
- City-port Agreements - Interaction between port and city
- Glocal Governance Re-focusing - port planning: critical issues and future opportunities

These macro-themes delimit the scope of the plan, mark its development and guide its contents, providing a logical reading of the processes and trends underway and lastly facilitating the development of the plan indications and guidelines.

We have chosen **English titles** for the macro-themes after having studied and analysed international port strategic planning. Each of these is, however, associated with an Italian subtitle to make it easier to understand.

TAKING A SLOGAN AS A GUIDE

The introduction of the strategic component at network level requires capacity: **courage and innovation**.

The reference to the title of Aldous Huxley's most famous book, "**Brave New World**", as a slogan for this Plan is deliberate: a clear reference to the need to innovate.



WHAT IS THE DPSS

The recent amendment of the 84/94 Port Reform Law introduced a systemic reorganization of ports that has overcome the inefficient fragmentation of the past: from Port Authorities to Port Network Authorities.

Port Planning has also undergone radical innovation through a new generation of port planning tools: the most important is the Port Network Master Plan (PNMP).

The PNMP is developed on two levels:

- Strategic level: the DPSS implements and details at network level the policy framework by providing guidance to specific Port Masterplans on strategies, actions and port network policies in the medium to long term;
- Operational level: the specific Port Masterplans are more streamlined than before, drawing on the knowledge framework and strategies of the DPSS, and geared to being operational, obviously in continuity with the higher network guidelines.

At regulatory level, Legislative Decree 232/2017 with the amendment of Art. 5 of Law 84/94, requires the DPSS to:

- define specific port authorities' development targets and their network planning tools,
- identify and delimit:
  -the areas destined to strictly port and retro-port operations;
  -port-city interface areas;
  -'last mile' road and rail infrastructure connections with specific network ports;
  - urban centre interfaces
- describe, in the explanatory report, the:
  -objective,
  -choices made,
  -criteria followed in identifying the systemic planning contents,
  - systemic spatial planning (graphics at appropriate scales)
- ensure a clear and unequivocal identification of policies, rules and procedures for the drafting of Port Masterplans.

The DPSS approval process is complex and shared among competent authorities: it shall be adopted by the Management Board after consulting all the municipalities concerned.After that phase, the DPSS can be approved by the competent Regional Administration, (after consultationwith the Ministry for Transport and Infrastructure, which expresses itself **after hearing the National Conference's opinion).**

INNOVATIVE ASPECTS

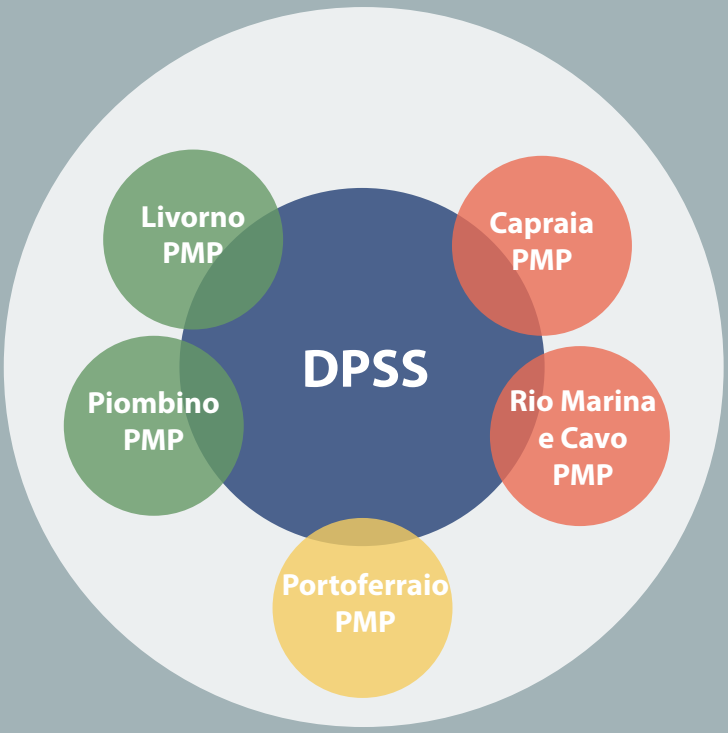
With the reform, Port Network Authorities are called to measure themselves against a very pioneering and experimental scenario, as there are currently no specific guidelines (after only one year, the 2017 Ministry for Transport & Infrastructure guidelines are considered outdated) or examples to follow.

With the guidance of the DPSS, each Port Network Authority is exploring various planning concepts, and personalizing the strategic component, the consistency and multidisciplinarity of the knowledge framework, the involvement of stakeholders and the in-depth project analysis, the final output of the guidelines, etc...

Fortunately, the North Tyrrhenian Port Network Authority's DPSS is based on consolidated studies and outcomes of the recent Livorno and Piombino Port Masterplans, which, in many areas, anticipate the reform. The two Port Masterplans have been developed through specialized engineering and environmental studies on existing ports and their

Port Network Master Plan

PNMP



possible expansions. These studies investigate both infrastructure and last mile issues as well as the interaction between the port and the city and their relationship; the real novelties of the reform.

In order make the best use of the most innovative aspects that have been introduced with the reform, other consolidated experiences of spatial planning, environmental planning, mobility and infrastructure have been analyzed, with a view to extrapolating tools and methods to apply to specific port planning practices and regulations:

- The division of port planning into two levels is facilitated by the vast experience acquired in Tuscany with its particularly advanced regional and urban planning systems

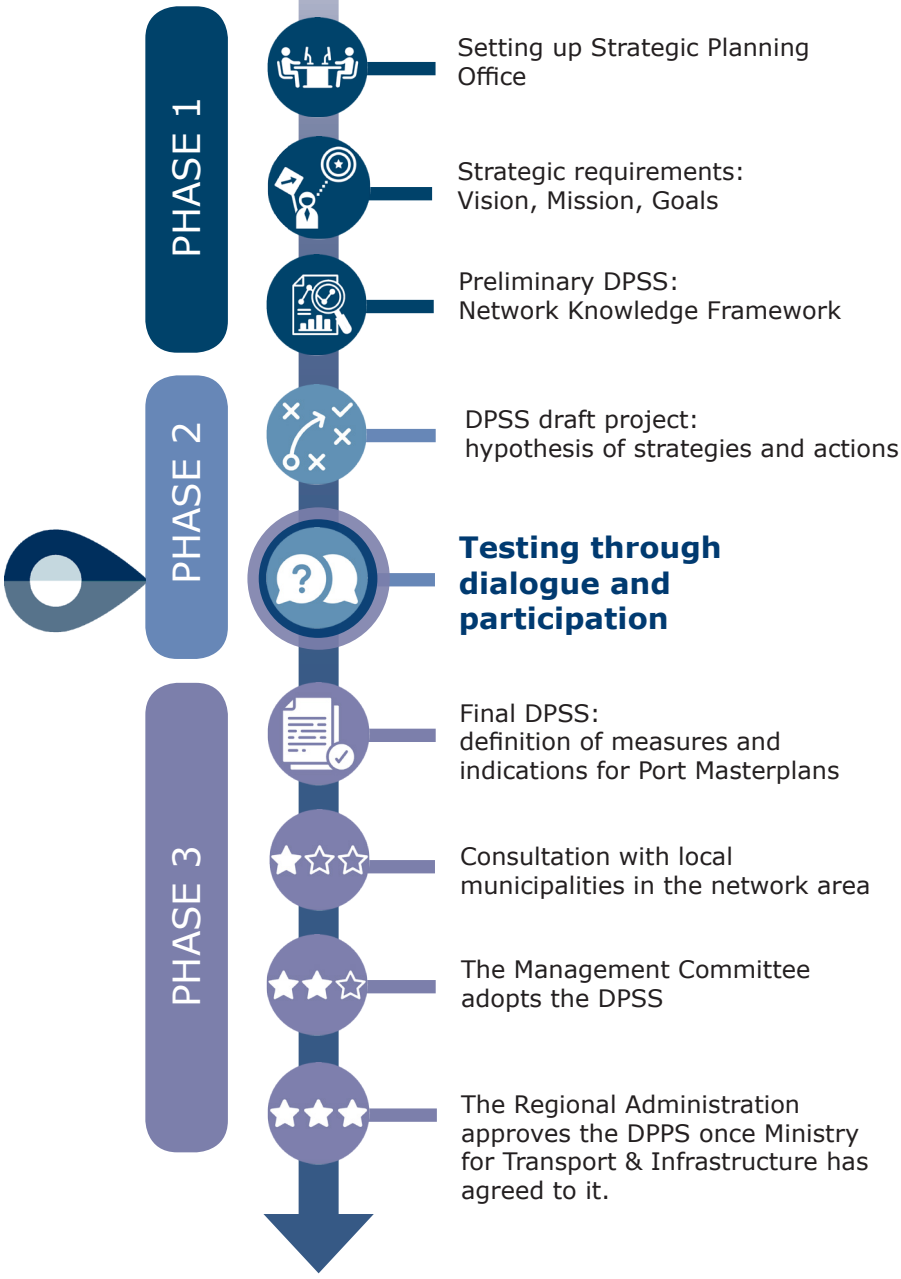
- • Designing the new strategic supply chain (objectives-strategies-actions) introduced by the amendment to Law No. 84/94, has involved incorporating and adapting Sustainable Mobility Plans and Strategic Plans for large regional areas.

- Developing the new knowledge framework at network level, which will provide the basis for the new operational Port Masterplans, has involved readapting the logical development framework of urban planning schemes and the Tuscan Regional Policy Plans.

- Devising scenarios (current -reference-project) has involved adapting the framework of the Sustainable Mobility Urban Plans and Infrastructure as codified at European level in the SUMP-Eltis guidelines

- The involvement of public bodies, stakeholders and local entrepreneurs is fundamental for developing strategic guidelines and actions at Port Network level. In order to do this, we have drawn on experiences of participatory paths consistent with indications at European level (SUMP-Eltis) national (VIA-VAS & MIT guidelines for the PUMS) and Tuscan (Law 46/2013).

- In order to provide guidance to Port Masterplans and actions for the whole port network, “strategic area factsheets” will be provided along with the rules governing their use, similarly to what has been done in Tuscany Regional Administration’s Regional Policy Plan and in many urban planning schemes.


PHASE 1
PHASE 2
PHASE 3
Setting up Strategic Planning Office
Strategic requirements: Vision, Mission, Goals
Preliminary DPSS: Network Knowledge Framework
DPSS draft project: hypothesis of strategies and actions
Testing through dialogue and participation
Final DPSS: definition of measures and indications for Port Masterplans
Consultation with local municipalities in the network area
The Management Committee adopts the DPSS
The Regional Administration approves the DPPS once Ministry for Transport & Infrastructure has agreed to it.

OBJECTIVES OF THE DPSS

The strategic objectives of the DPSS, on the other hand, are the result of a comparative analysis and a recalibration at network level of the objectives contained in the various port masterplans with the port and regional policy framework.

We started from the analysis of **plans addressing strategic logistics, transport and port planning**: at European (TEN-T), national (PSNPL) and regional (PRIIM) levels.

This first major review was accompanied by an **analysis of the national (DEF) and regional (DEFR) economic and financial programming documents**.

All the above documents, related to the operational aspects of the port network, have been cross-referenced with the planning and strategic planning at regional level of the different levels of government involved (PIT, PS, RU/PO).

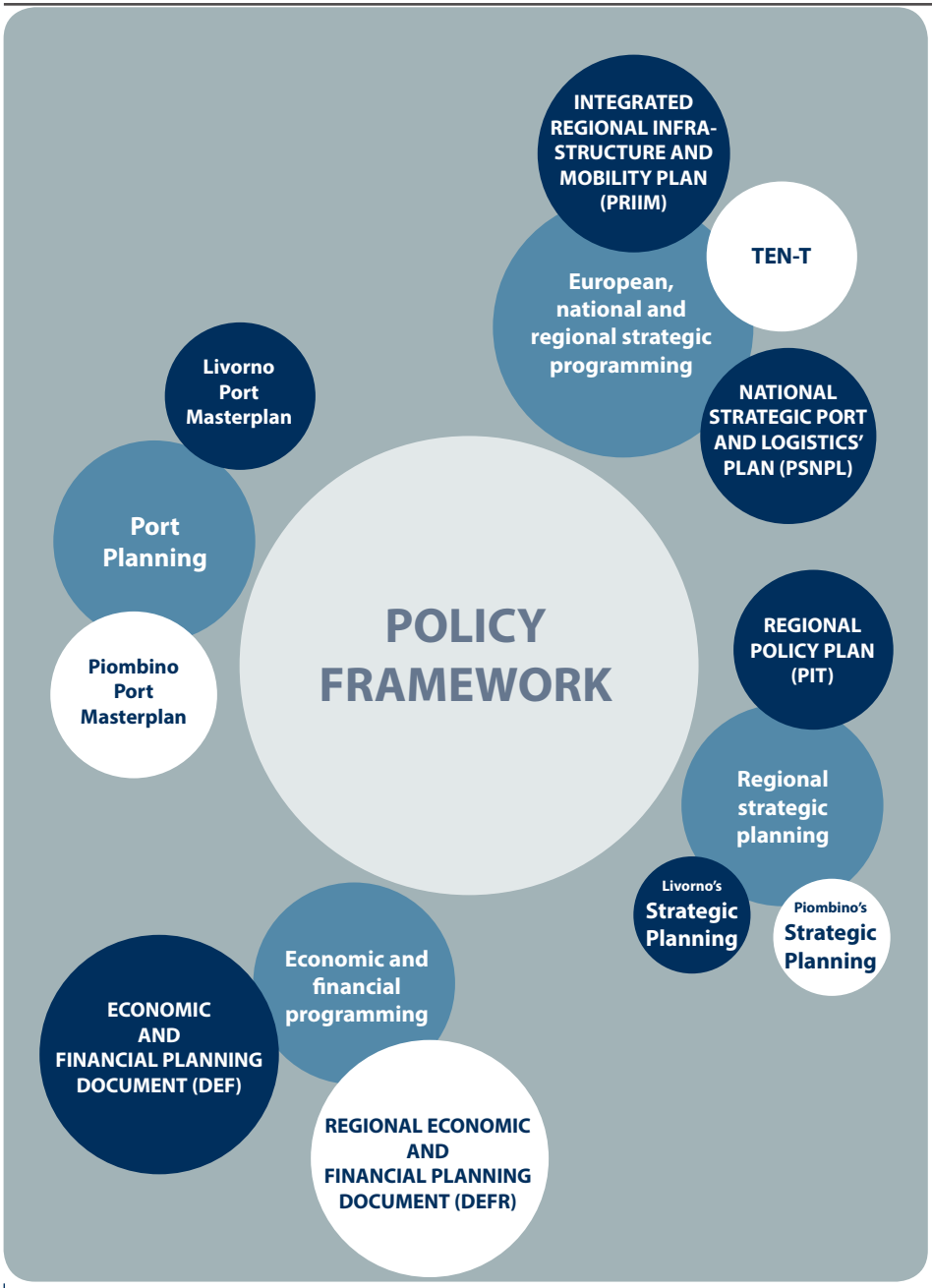
In so doing it has been possible to broaden and integrate Port Network planning themes with urban regeneration, integrated and intelligent accessibility, sustainability, inclusion, in order to competitively relaunch ports in their regional context too.

Thepurpose of this broad and complex policy framework is to foster integrated planning in the DPSS of the various thematic areas that the reform requires by activating new strategic network planning processes.

The outcome of the policy framework has been to provide the DPSS with an integrated set of multilevel and multidisciplinary objectives to be verified and then refined in the second phase of consultation and comparison.

These integrated objectives make the DPSS coherent and consistent with both port and regional multi-level strategic planning.

Once identified, the objectives resulting from the analysis of the policy framework were compared with the results of the examination of the local port network's planning (Port Masterplans), defining a more specific and multidisciplinary list of objectives.


INTEGRATED REGIONAL INFRA-STRUCTURE AND MOBILITY PLAN (PRIIM)
TEN-T
European, national and regional strategic programming
NATIONAL STRATEGIC PORT AND LOGISTICS' PLAN (PSNPL)
Livorno Port Masterplan
Port Planning
Piombino Port Masterplan
POLICY FRAMEWORK
REGIONAL POLICY PLAN (PIT)
Regional strategic planning
Livorno's Strategic Planning
Piombino's Strategic Planning
Economic and financial programming
ECONOMIC AND FINANCIAL PLANNING DOCUMENT (DEF)
REGIONAL ECONOMIC AND FINANCIAL PLANNING DOCUMENT (DEFR)





VISION AND MISSION

The **vision** establishes the general strategy of the plan together with the **mission** which is defined as the ultimate goal to be achieved through this Plan.

The **definition** of vision and mission is very important in the process of developing a Strategic Plan.

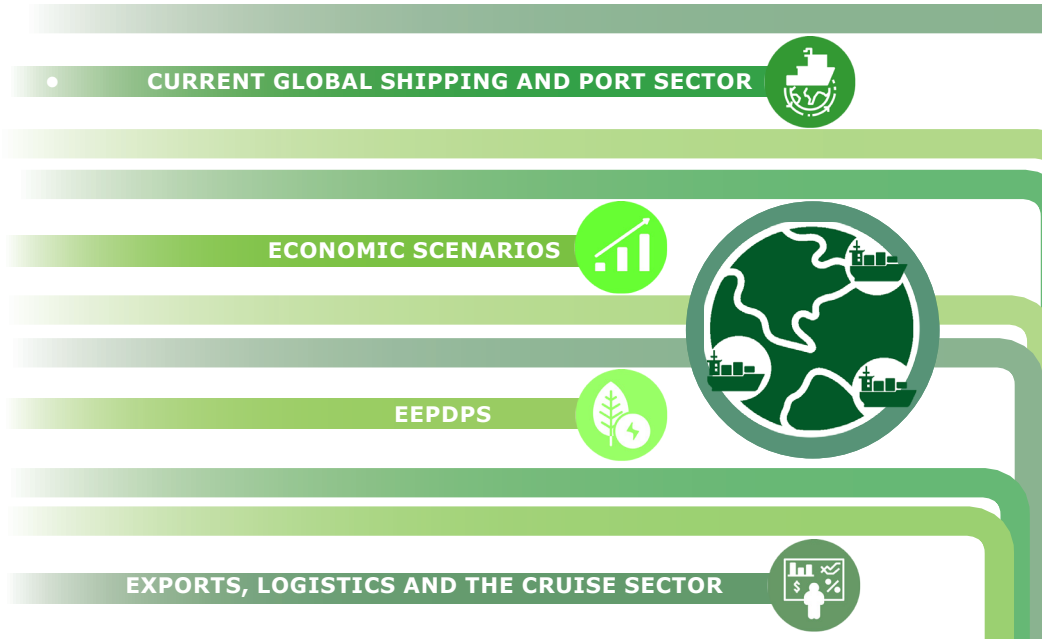
They constitute the ultimate objectives which the entire planning process moves towards, following the criteria of consistency and looking for implementation synergies.

The **development** of the mission and vision is only the beginning of the whole strategic phase that makes up the preliminary DPSS.

In order to obtain the desired results in the next phase, the various objectives and the strategies to be put in place to pursue them have to defined

In order to define the strategic objectives of the DPSS, it was necessary to carry out an analysis of the objectives contained in the various plans governing port planning.

This large-scale analysis has been further explored in the network knowledge framework in which, through studying current Port Masterplans, the objectives have been detailed down to local scale.



INTRODUCTION

This macro-area provides an overview of the possible consequences in the national port system and in individual ports of all those dynamics, which the North Tyrrhenian Port Network Authority has nothing to do with, but which influence how they operate, affect their purpose and competitive nature and conditioning their effectiveness and efficiency.

The four main themes are:

- current global shipping and port sector scenarios;
- economic and social impact: exports, logistics, cruise industry;
- the interface with environmental energy planning;
- the applications and Smart IT services for the Ports and the entire system.

The DPSS recognizes these basic issues as external factors but very influential on the national port system itself. Even if the DPPS document cannot directly affect the strategic choices, it is essential to take them into account in order to better calibrate and construct objectives,

strategies and actions.

The very nature of the port system is complex and requires a complete analysis and assessment of all possible scenarios for its correct progressive development. It is therefore easy to understand how this chapter is crucially important for the whole document

CURRENT GLOBAL SHIPPING AND PORT SCENARIOS

The analysis of these aspects aims to provide a complete picture in order to know the context in which the North Tyrrhenian Port Network Authority operates.

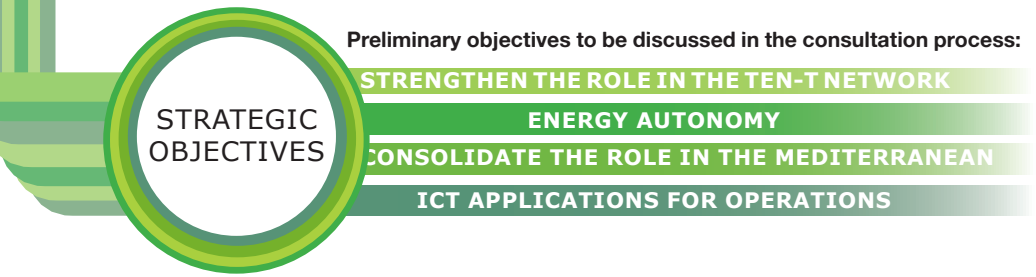
First, the current global shipping scenario will be analyzed and then, at local level, we will focus on individual ports and their geographic context.

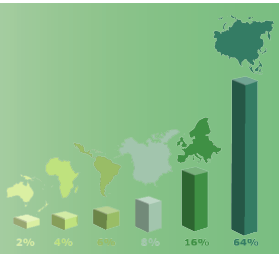
The detailed economic aspects will focus on national and international scenarios related to the evolution of logistics and shipping, with an analysis of global trade, Mediterranean and European scenarios, the market in the MENA area and new shipping routes.

ECONOMIC AND SOCIAL IMPLICATIONS: EXPORTS, LOGISTICS AND THE CRUISE SECTOR

Socio-economic aspects in terms of employment and economies of scale, on the other hand, are used to evaluate and understand the direct and indirect impact at regional network level.

Tuscany is an export-oriented region and, at the same time, a major importer of raw materials. This Is why the coastal logistics platform considers the port nodes as the heart of the regional economy.





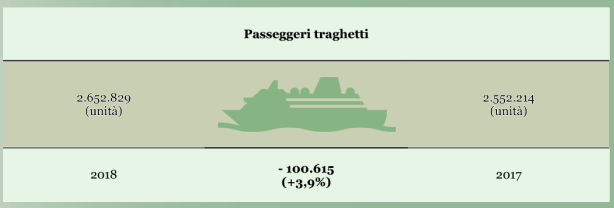
Source: SRM on Unctad. Container volumes handled per area.



Source: IRPET. Incidence of exports on total employment per region. Partial.



Schema contenuti del DEASP



Ferry passenger fluctuation

Tuscany's cultural heritage and the beauty of its landscape attracts tourists from all over the world. The cruise sector plays a leading role in its regional tourism system.

THE RELATIONSHIP WITH ENVIRONMENTAL ENERGY PLANNING

Considerable importance is given to environmental issues. They have been discussed in depth in the Port Network's Energy and Environmental Planning Document (DEASP/ EEPDPS), devised by the Port Network Authority.

SMART APPLICATIONS AND IT SERVICES

A small focus on this Document and the relationship between the two plans will be included in the DPSS

also involves new smart solutions and Big Data management. This will consent, for the first time since the last reform on the subject, a complete assessment of current shortcomings and critical points related to these issues

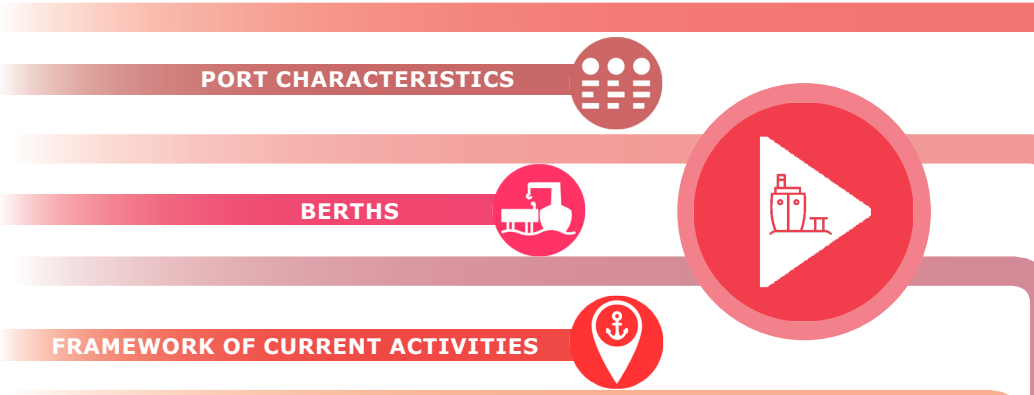
The current overview of the North Tyrrhenian Port Network Authority's applications, with reference to new smart solutions and big data management, makes it possible for the first time since the reform, to make an assessment of the current shortcomings and critical issues on the subject.

In the development of the DPSS project, it will therefore be possible to envisage calibrated, effective "smart" actions, policies and guidelines, which are now essential in the global, connected world in which the Port Network Authority operates.

It should be stressed that these underlying themes are those most strongly affected by the multi-level crisis that began in March 2020 due to the COVID_19 pandemic. It will therefore be necessary to update this chapter, which was written prior to the emergency.

The North Tyrrhenian Port Network Authority and its Strategic Planning Office are constantly monitoring and analyzing the dynamics and repercussions caused by the emergency, in order to carry out the necessary thematic corrections when drafting the final DPSS

QUAY PLUG & PLAY



STRENGHTS

Multi-purpose port and flexibility in the use of berths

WEAKNESSES

Characteristics of seabeds, yards and quays which are inadequate for many types of shipping

OPPORTUNITIES

Funding to enable Infrastructural developments and technological improvements

THREATS

Changes in shipping and trade to be dealt with quickly and effectively

This macro-area considers all the **Port's operational aspects**, examining the physical characteristics of the network ports and their harbour and shoreside activities.

The six network ports are classified according to their main **specialization**s. In particular, Livorno and Piombino are the network ports of national and international interest. The island ports are, instead, used primarily for tourism.

Quays and **berths** are considered to be the main interface between the operational port and shipping. This Is why an analysis of quays and berths has been carried out.

This analysis includes both the types of traffic that the quays usually accommodate and the physical characteristics of the latter.

This study enables us clearly map out the berth system, highlighting weaknesses and opportunities.

The current picture of the **operational aspects** of Livorno and Piombino's Port Masterplans is also examined in depth. The synthesis will help us to identify critical issues and highlight opportunities, thanks also to the analysis of projects on this topic.

The insights and studies in this paragraph are intended to contribute to defining a reference framework. This is useful for having access to state or European funding for implementing redevelopment and efficiency projects

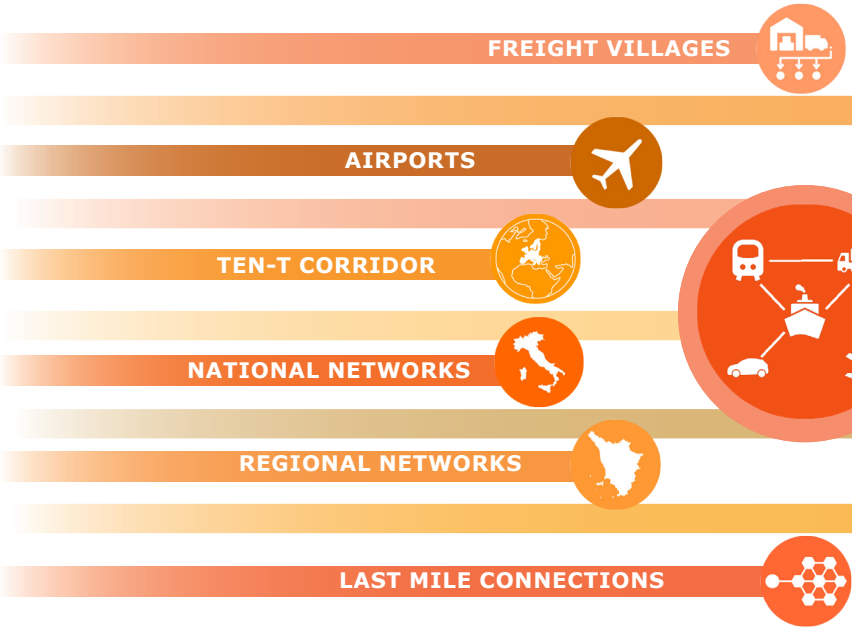
The analysis highlights the importance, in the planning and consultation phase, of developing indications and policies aimed at reorganizing the berthing system in major ports. A specific work group has recently been set up to support this.

STRATEGIC OBJECTIVES

Preliminary objectives to be discussed in the consultation process:

- STANDARD PORT SERVICES
- RATIONALIZATION OF PORT OPERATIONS AND LAYOUT
- EFFICIENCY OF QUAYS
- MANAGEMENT OF PUBLIC BERTHS

OVERCOMING NETWORK IMPEDANCE



STRENGHTS

The system is positioned along international and national networks of considerable importance

WEAKNESSES

Logistical difficulties due to the lack of continuity between ports and with their regional networks

OPPORTUNITIES

Enhancement of the entire coastal Tuscan Logistics Platform

THREATS

Set up agreements with other institutions and secure external financing in order to adjust

The macro-area defines the **infrastructural layout** with an overview of the services of the port "shoreside".

The analysis has been carried out with a multi-level perspective, from the regional infrastructural connections to those of last mile. All types of infrastructure that impact port logistics are analyzed, distinguishing "nodes" and "networks".

The North Tyrrhenian Port Network Authority's **logistic node** is a complex unitary system, consisting of the following: logistics and manufacturing, industrial, plant and environmental equipment, energy and telematic networks and services that constitute a coherent set of infrastructures and activity centres.

The infrastructures are designed to interact functionally and are connected, through logistical corridors, to large production and distribution centres.

The presence of **freight villages** and **logistic distribution platform**s within the network consents modal integration, offering more services than just the transport and routing of goods and passengers.

The **multidimensional and multimodal network system** guarantees full connectivity of the port network with the metropolitan area of central Tuscany and consequently with the Italian network.

What emerges from the analysis is the need commonly investigate in depth and define, the last mile road network, in particular for the major ports, being able to count on, among other things, advanced work groups and projects on the subject

STRATEGIC OBJECTIVES

Preliminary objectives to be discussed in the consultation process:

- CONNECTION TO MACRO-AREA NETWORKS
- ROAD/RAIL SWITCH
- LAST MILE
- REGIONAL CONTINUITY
- ACCESSIBILITY

CITY - PORT AGREEMENTS

INDICATOR METHOD

PORT-CITY STATUTE

THE FUNCTIONAL RELATIONSHIP

INTERFACE AREAS

OUTCOME OF THE ANALYSIS



STRENGHTS

Historical heritage and waterfront with consolidated and well-integrated links

WEAKNESSES

Difficulty in attributing competence to certain areas of interaction that are not clearly defined

OPPORTUNITIES

Gradual regulatory clarification of overlapping competences between port and city

THREATS

Increased bureaucratic procedures and administrative agreement processes

The port-city interaction represents the most innovative component of post-reform Port Planning . For this reason, the following paragraph will be more detailed than the others, not being able to rely on previous studies or similar analyses carried out by other Port Network Authorities

Therefore, an **experimental analysis** has been developed, with subsequent evaluation at network level, of all the types of interaction between port, city and regional area.

The study was carried out through a **system of indicators**, thanks to which it was possible to identify the areas where the port influences the city and the regional area. These indicators were chosen on the basis of international studies and research on the subject. The results of the analysis form the basis for **redesigning the perimeters** of the interface areas. These constitute the most precise, regulatory indication of the DPSS area as required by Legislative Decree 232/2017.

The definition of port-city interface areas Is **designed to simplify procedures and competences** between Ports and Municipalities both at planning and regulatory/ administrative level.

The analysis shows that there is a strong need to define specific actions to solve the current unresolved issues like:

- creating new recreational areas in order to lighten the burden of Livorno's canal network;
- integrating the new passenger terminal with both Livorno's historic city and its commercial port;
- assigning the purposes of waterfront areas not only in major ports, but particularly in smaller island ports;
- the geographical and functional redefinition of the areas used for passenger disembarkation and boarding.

STRATEGIC OBJECTIVES

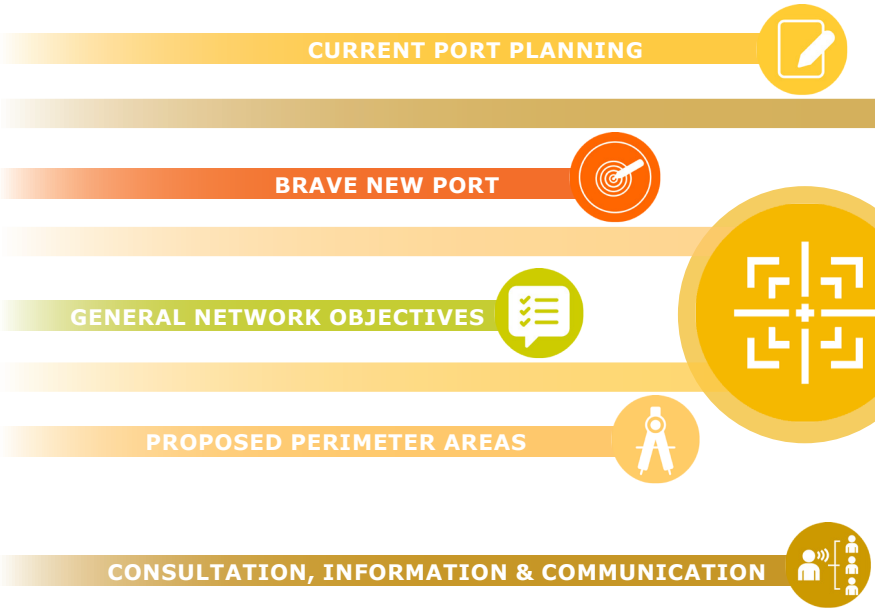
Preliminary objectives to be discussed in the consultation process:

REDUCING PORT-CITY INTERFERENCE

WATERFRONT REGENERATION

SHARING AND PARTICIPATION

ENHANCING EXISTING ASSETS



The macro-area of reference is port planning analysis for the purposes of its **systemic remodulation** as required by the recent reform of Law 84/1994.

First of all, the port planning tools in force in the ports of Livorno, Piombino, Portoferraio and Rio Marina were analyzed. Secondly, the decree of implementation of the Port Masterplans was identified and the regulatory or planning problems encountered in their implementation were highlighted. The ports of Capraia and Cavo, instead, were found to be without Port Masterplans.

LIVORNO

Livorno 's port masterplan has been in force since 2015. It consists of two main areas of intervention:

- the functional reorganization of the port areas and infrastructures and
- the seaward expansion of the port.

The first is currently being completed through Implementation Plans and partial refinements with technical and functional adjustments.

The DPSS will have to define, once

the strategic project at network level has been developed, whether or not a regulatory transposition variant and/or a partial variant is needed.

PIOMBINO

Piombino also has a recent Port Masterplan, dating back to 2013. It focuses on large-scale interventions regarding the Darsena Nord dock, ro-pax berths and the ferry terminal.

At present, the secondary projects relating to the infrastructure networks - first of all, from the SS 398 highway to the Terre Rosse junction - and environmental measures are currently being ultimated, as well as the linking up and extension of the Molo Batteria pier and the Darsena Nord dock.

The DPSS will also have to define whether or not a regulatory transposition variant and/or an partial variant is necessary rather than simple Technical Functional Adjustments.

PORTOFERRAIO, RIO MARINA E CAVO

All three ports have Port Masterplans (including the respective variants) prior to Law n. 84/1984 which anticipated the need to foresee indications in the DPSS for the drafting of a new port masterplan

Given the limited size of the berths, how other similar ports are used, the restricted types of traffic they cater for and the fact that these ports are part of a specific regional and environmental network, the DPSS intends to prefigure a coordinated project for the Island of Elba. Therefore, indications will be given for the drafting of two Port Masterplans, detailing the parts that can be used in both and those to be considered specific.

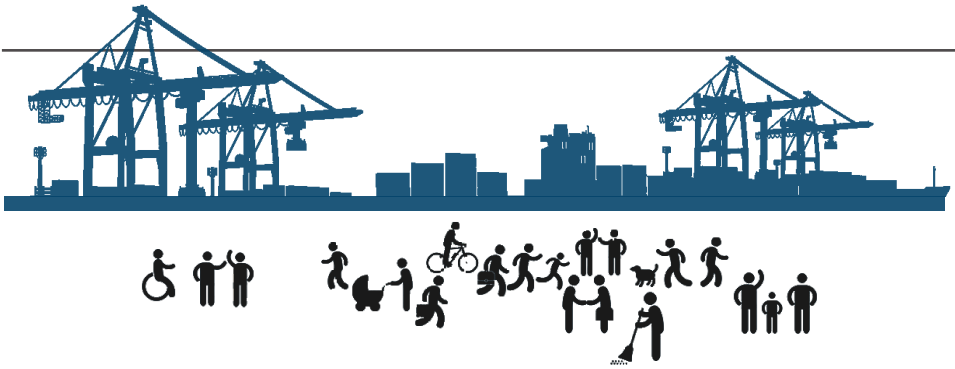
CAPRAIA

The Port of Capraia does not have a port masterplan. Therefore, a masterplan will be devised specifically for it, similarly to what is foreseen for the other island pots in the network.

STRATEGIC OBJECTIVES

Preliminary objectives to be discussed in the consultation process:

- PORT NETWORK GOVERNANCE
- COMPETITION AND TRANSPARENCY
- INCREASE IN EFFICIENCY RATIOS
- SIMPLIFICATION OF PRACTICES



TERRITORIAL BODIES

how?

- On-line technical discussion groups
- Videoconferences

PORT STAKEHOLDERS

how?

- Questionnaires
- In-depth Interviews

LOCAL ACTORS

how?

- Webinars
- Questionnaires
- Geoblog

The amendments to L.84/1994 have progressively given greater importance to the consultation of the actors involved in port planning. The major novelty introduced is related to the importance given to regional authorities, with whom greater collaboration and the definition of co-planning is required, as clarified in the DPSS. In particular, the role of municipalities has become increasingly important, not only as the last obligatory step prior to adoption, but above all in deciding on the identification of port-city interface areas and agreeing on their management with the Port Network Authority.

Great importance is also given to local and regional authorities,

with whom greater co-planning is required: in particular they are the municipalities, the last institutional step before adoption of the DPSS in the Management Committee.

In particular, municipalities must also give their opinion on the identification of areas of port-city interaction.

Consultation of stakeholders is an important step in the development of the strategic planning process of the DPSS and has a specific phase, i. e. the DPSS Preliminary Document, which serves as a common basis for multi-level debate. This debate is therefore articulated in three distinct levels of consultation:

- Level of Regional bodies: (Municipalities, metropolitan cities andregional administrations in the Network)
- Level of Port Stakeholders (Sea Resource Partnership)
- Level of Local Actors (Citizens andStakeholders).

Constructive input is required from all these actors to complete the analysis of the preliminary DPSS and to elaborate the draft of the final DPSS. In detail, the steps in the three consultation levels will enrich the preliminary DPSS with objectives, strategies, actions and guidelines for port masterplans, as well as defining the systemic contents of strategic port planning.

Social restrictions due to the **COVID_19 emergency** have been in place since March 2020. Consequently, all three levels mentioned above cannot foresee traditional meetings, but will take place remotely in different ways:

- First Level:
  For regional and local authorities, thematic and regional meetings take place by videoconference, recreating virtual technical panels;
- Second Level:
  For port stakeholders: questionnaires and in-depth interviews with individual port masterplan members
- Third Level:
  For local actors: webinars with opportunities for public interaction, targeted questionnaires and Geoblogs



Port Network Authority of the
North Tyrrhenian Sea

Ports of Livorno – Piombino – Portoferraio – Rio Marina – Cavo - Capraia Island